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Report

Vermont State Hospital
Brooks Building
Waterbury, Vermont

Psychiatric Facility Safety and Security Review

Based on an Inspection that took place on February 21, 2006

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Vermont State Hospital (VSH)
Brooks Building
Psychiatric Units
Safety and Security Inspection

The author of this report is an architect with over thirty-five years of experience in the design of behavioral healthcare facilities. He has a national reputation for his work with the specialized requirements of psychiatric hospitals and other mental health related facilities. He is an award winning designer and a Fellow of the American Institute of Architects, FAIA.

This inspection was conducted in conjunction with Carroll (Bud) Ockert a Life Fellow of the American College of Healthcare Executives, LFACHE. He is an experienced hospital administrator, with over 15 years as a facility reviewer with the Joint Commission on Accreditation of Healthcare Organizations, (JCAHO).

Acknowledgement
We would like to express our appreciation to Terry Rowe, Executive Director of the VSH and to Anne Jerman, Director of Nursing at the VSH for their cooperation and assistance in the inspection and the subsequent preparation of this report.

Objective
An inspection that was conducted on February 21, 2006 at the three psychiatric units in the Brooks building at the Vermont State Hospital Our evaluation was concerned with design and construction issues related to current standards of practice for safety, and security, on acute care psychiatric units.

The objective of the inspection was to assess the physical setting of the three units to determine the consistency of the VSH in meeting the standard of care for similar psychiatric facilities in the United States.

Methodology
The intent of the inspection was to provide a comprehensive review of the entire facility. This involved a thorough inspection of all program spaces and representative patient accommodations on every unit.

Recommendations for specific improvements apply to all similar spaces and accommodations throughout the entire facility.

The recommendations from this report will require an implementation procedure that will address all accepted improvements in all applicable locations throughout the facility.

Priorities
All recommendations are labeled either **HSW** (Health, Safety and Welfare of Patients or Staff), **PM** (Patient Management Improvements), or **EE** (Environmental Enhancements). The highest priorities for an implementation process are the HSW improvements, followed by PM, and finally the EE recommendations.

Building
The Brooks Building is the only remnant of the Vermont State Hospital that maintains the original mission of caring for chronic and persistent mentally ill patients. The building was built in 1938, and was designed specifically for the overnight accommodation of psychiatric patients. The Brooks Building houses 54 psychiatric inpatients on three units on each of its three floors.

The building was built in an era that had little interest in creating a therapeutic environment that would be conducive to humane treatment. It utilizes institutional materials and construction methods throughout. The resulting setting does not represent the current standards of architectural practice in today's environment of healthcare facility design.

However, relative to safety and security, the Brooks Building provides patients with a remarkably safe, albeit unpleasant physical environment. We noted, for instance, the high level of safety and security that are exemplified by the care the VSH has taken to address typical problem areas such as plumbing fixture protections. (See Below)

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The few areas of concern that were observed on the units, (cited below), were generally exceptions, or oversights, to an otherwise very safe environment.

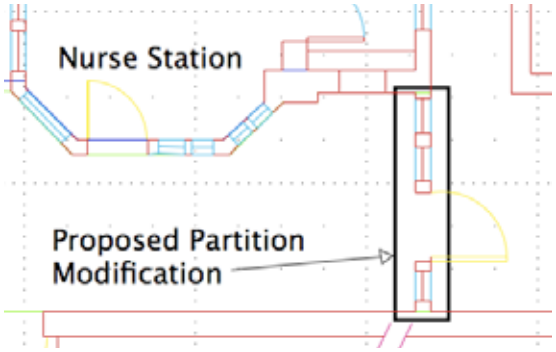
Units
The Brooks Building has three units on each of the three floors in the building. They are designated, Brooks 1, on the designated Level 1 of the building, which is a 19 Bed Unit which is populated primarily with male patients. Brooks 2, on the designated Level 2 of the building, which is a 21 Bed Unit which has a mix of male and female patients, and the Rehab Unit on the lower level of the building, which is a 14 Bed Rehabilitation Unit.

The following observations and recommendations may apply to a specific unit, or in certain cases apply in a more general manner to the entire facility.

Brooks 1
Brooks 1 is accessed from a corridor that acts as a "sally port" vestibule, with a security office, and controlled visitor rooms. This initial impression of the unit is reminiscent of a "corrections" facility instead of a therapeutic behavioral healthcare facility.

Chain Link Partition: This impression is reinforced by a "chain link" partition and door at the end of the corridor, at the point of entry onto the unit.
Recommendation (EE): Replace the Chain Link Partition with a hollow metal and glass partition similar to the access to the Rehab Unit.

Nurse's Station: (the bubble) is well located to provide visual control of the unit including the point of access, and patient bedroom doors. The benefit of this location is compromised by the partition that separates the porch side bedrooms from the rest of the unit.



Recommendation (PM): Delete the solid partition and door, or replace the solid partition with a hollow metal and glass partition similar to the previous recommendation.

Nurses Station: Monthly checks on the fire extinguisher in the Nurses Station had not been done since December 2004. The fire extinguisher is hidden behind the medical records cart. In addition, the sign denoting the location of the fire extinguisher was partially obstructed.
Recommendation (HSW): Fire extinguishers should be checked monthly and the check documented. The sign noting the location of the fire extinguisher should be mounted so it is viewed on both sides and where it is seen by all staff.

Patient Bedrooms do not meet the current standards for size and appointments. The Porch Side Bedrooms have the corrections style stainless steel toilet in the bedroom, which is contrary to current standards that typically will have a private bathroom connected to each patient bedroom.
Recommendation (EE): We do not see a remedy to this situation without a dramatic renovation to the entire building, which would not be practical.

Patient Room Ceilings are correctly installed as continuous solid plaster or gypsum board. We were concern that the "popcorn" finish could possible contain "suspect material". In addition, the rough and porous surface is very difficult to clean resulting in several areas that appear dirty.
Recommendation (HSW): If that possibility has not been investigated we would recommend engaging an industrial hygienist for an opinion.
Recommendation (EE): Subsequent to the Hazmat investigation, consider removing the irregular finish and replacing with a smooth finish in the interest of cleanliness.

Patient Wardrobes are not provided on the Unit per the current standards. Although wardrobes are a source of concern due to the potential looping hazard posed by the wardrobe door we believe patient wardrobes should be incorporated into the patient bedroom per current guidelines.
Recommendation (PM): We recommend providing a patient wardrobe without doors that would have "cubbies" above with a lockable drawer(s) below.

Seclusion Room does not meet the current standard that includes a vestibule and dedicated toilet. There is no remedy to this situation without a dramatic renovation project. The door in the seclusion room swings in. The layout of the seclusion room allows a patient to hide in the corner out of direct line of sight while under staff observation.
Recommendation (PM): The door should be changed to swing out.
Recommendation (HSW): This visibility issue can be corrected by the installation of a camera in the room or an impact resistant mirror mounted behind the screen of the window directly across from the door.

Tamper proof Fasteners: We noted a ceiling mounted diffuser, and a wall mounted convection enclosure that utilized slotted and hexagonal fasteners.
General Recommendation (HSW): A thorough review of all fasteners, in all rooms where patients can be alone, should be conducted. All fasteners that are not "tamper-proof" should be replaced with security fasteners. Security fasteners, as the name indicates, are fasteners that provide an added level of security by their drive design that prevents removal with ordinary tools.

Client Room and Dayroom: The cord on the TV set was too long.
General Recommendation (HSW): Long cords should be eliminated on all pieces of electrical equipment thereby reducing the chance of being used as life threatening devices.

Linen Closet: Several items were stored on the top shelf of linen closets. This interferes with the proper functioning of the sprinkler head in the closet.
Recommendation (HSW): Nothing should be stored closer than 18 inches for the bottom of the sprinkler head.

Tub Room: The handle on the bathtub faucet protrudes out several inches and can be removed. This creates a possible hazard for a patent doing harm to themselves.
Recommendation (HSW): The faucet should be replaced with a "loop-proof faucet.

Exit Sign: The exit sign in the main corridor has an arrow on it that point to the dayroom. However, there is no exit to the outside of the building in the day room.
Recommendation (HSW): The arrow needs to be removed so as not to confuse anyone as to which direction to go in an emergency.

Emergency Light: One of the emergency lights had been removed from the wall and the other was hanging from the wall in the North corridor.
Recommendation (HSW): This situation should be repaired.

Ceiling Diffuser: A ceiling diffuser (see below) was noted in the telephone booth opposite the nurse's station. This type of ceiling diffuser, with square openings in excess of 1/2" is a possible looping hazard.

Recommendation (HSW): All such ceiling diffusers should be replaced withrisk resistant security grills and registers with the following specification: The face plate will be of 12 GA steel with 5/32" or 7/32" perforated holes (for risk resistance) with a 1/2" "hug tight" lip. A secondary 14 GA face plate mated and spot welded to the front face giving an overall 3/16" seamless face plate appearance. An optional stainless steel (16-16-mesh) screen may be spot welded to the back of the face plate for further risk and contraband reduction. The face plate will be attached by pinned flat head torx security screws to a suitable edge.:

Smoking Porch: Although it was emphasized that patients are not left alone on the smoking porch, and that the porch is supervised with a security camera, the exposed pipes and potential hanging hazards are an area of concern.
Recommendation (PM): Consideration should be given to the enclosure of exposed pipes (if possible) on the smoking porch.

Brooks 2
Brooks 2, which is located on the second floor of the Brooks Building is very similar to Brooks 1. However, the higher ceilings and generally more open feeling provides a somewhat more pleasant environment. Many of the comments and observations that were made on Brooks 1 also apply to Brooks 2.

Nurse's Station is not as prominent as Brooks 1, but is also well located to provide visual control of the unit including the point of access, and patient bedroom doors. However, similar to Brooks 1, the benefit of this location is compromised by the partition that separates the porch side bedrooms from the rest of the unit.
Recommendation (PM): Delete the solid partition and door, or replace the solid partition with a hollow metal and glass partition similar to the previous recommendation.

Patient Bedrooms on Brooks 2 also do not meet the current standards for size and appointments. The Porch Side Bedrooms on Brooks 2 are larger than the other side, but have a recessed niche to allow the doors to swing into the corridor. This niche is problematic because it does not direct visual control of the patient bedroom doors.
Recommendation (PM): We do not see a remedy to this situation without a dramatic renovation to the entire wing, which would not be practical.

Patient Bathrooms are accessed down long corridors, providing a control problem and areas for patient hiding places.
Recommendation (PM): We do not see a remedy to this situation without a dramatic renovation to this area.

Men's Bathroom has several areas of concern that should be remedied. The sinks are mounted on a plastic laminate counter. The faucets are of a type that could cause a "looping" hazard. (See Below)

Recommendation (HSW): We recommend these, and all similar faucets in the facility be replaced with a "loop-proof" automatic controlled faucets similar to those depicted below.

Ceiling Fixture (HSW): It does not appear that the ceiling fixture in the men's bathroom area above the sinks is mounted properly which could cause a potential hazard.

Recommendation: The light fixture should be mounted properly to, prevent removal.

Dayroom: We observed space around a wire and conduit that had been run through the ceiling in the dayroom.
Recommendation (HSW): These should be sealed to eliminate the passage of smoke between floors.

Stairwell: There is an open stairwell at the South end of unit.

Recommendation (HSW): This stairwell should be enclosed with a metal partition with a fine mesh that would extend from the top of the solid handrail to at least 7' above the stair nosing to eliminate the possibility of someone jumping.

Shower Rods: The photograph that follows shows a typical installation in patient bathroom shower areas. (Note the proper, institutional sprinkler head that demonstrates a general high level of care for safety that is evident throughout the facility).

However, the shower curtain is supported by a "breakaway" shower rod. Although this installation is very common in current mental health facilities, we feel the ease of removal of this building element could give a patient access to a "weapon" that could cause injury to other patients or staff.
Recommendation (PM): We believe a more effective shower curtain suspension system involves a flush mounted curtain track and velcro clasps as depicted below. Please note the loop-proof shower head and the flush mounted light fixture.

Brooks Rehabilitation Unit:
The Brooks Rehabilitation Unit has been developed on the lower level of the Brooks Building in an area that previously did not house patients for overnight stays. Since it is the most contemporary unit in the building, it reflects a more humane environment by utilizing materials and building elements that have a more human scale and character.

We understand that the Rehab Unit houses 14 patients who are more capable of independent living with more coherent thought processes. Never-the-less, the Rehab Unit is a secure mental health facility and must also meet the highest standards of safety and security.

TV Room: The cord on the TV set was too long.
Recommendation (HSW): Long cords should be eliminated on all pieces of electrical equipment thereby reducing the chance of being used as life threatening devices.

Activity Area Bathroom: The drain under the sink has not been boxed in nor is the faucet on the sink a loop-proof design. The toilet paper dispenser has a fixed spindle that could become a looping hazard.

Recommendation (HSW): Pipes under the sink should be enclosed and toilet paper holder should be fully recessed to avoid the potential for harm to patients. (This type of holder is used in other bathrooms in the facility).

Dining Area: There is a fire extinguisher in the kitchen area of the dining room. However, there is no sign or diagram in the corridor or dining room indicting that a fire extinguisher is present in the kitchen.
Recommendation (HSW): A sign needs to be placed at the entrance to the dining room and in the kitchen noting that there is a fire extinguisher in the area.

Entrance Partition: There is a large space around several wires and several open conduits, above the ceiling tile, in the fire rated wall at the entrance to the Rehabilitation Unit.
Recommendation (HSW): The space between the item and the wall and the open conduits must be filled with an appropriate fire rated material.

Additional General Comments:
Crash Carts: Crash carts are checked on a monthly basis.
Recommendation (HSW): Current philosophy and management practice is that crash carts be checked on a daily basis and the check documented. In addition, it is a good management practice to log the number of the breakaway lock on the check sheet and check this number against the lock number as part of the daily checks. This policy should be initiated at the hospital.

Room Furnishings: It would make the rooms more livable if the patients had bureaus and/or wardrobes in which to put their clothing. Currently, they keep their clothing in a pile on the floor. The concern has been the moving of these items.
Recommendation: This can be resolved by attaching them to the wall. Drawers can be fixed so they cannot be removed. The hospital should create a supportive environment for all patients. While they are in a program or unit it becomes their home and the atmosphere should be more "homelike".

Conclusion
This facility was designed almost seventy years ago for the purpose of housing psychiatric patients. There is evidence throughout the facility that the hospital is aware of, and concerned with safety, security and control issues. As stated earlier, the observations and recommendations that we have made are to address isolated areas of problems, and aspects of the building that might have escaped the notice of competent and diligent staff.

We believe that if the recommendations are implemented, the hospital will improve the physical structure and diminish the potential of patients causing harm to themselves or others.

We understand that these are short-term remedies that will of necessity be supplemented with a long term solution that will address the essential need to create a humane and therapeutic environment which is not possible in the Brooks Building.

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References:
Hospital Accreditation Standards, Joint Commission on Accreditation of Health-care Organizations, 2005, HAS.
NFPA 101, Life Safety Code. 2000 Edition.
Guidelines for Design and Construction of Hospital and Health Care Facilities, 2001 Edition, AIA and USD of H&HS

Product Specifications:

Toilet and Bath Accessories:
Toilet paper holder: Bobrick B952 or equal
Towel Clothes hooks: Bobrick B985 or equal

Mirror Glass: Nominal 6.0-mm (0.23-inch) thick, conforming to ASTM C 1048, Type I, Class 1, Quality q2, and with silvering, electro-plated copper coating, and protective organic coating. Provide Kind FT (fully tempered) at toilet rooms accessible to patients. Stainless steel mirrors are also acceptable but less desirable.

Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed.

Grab bars: Where required in handicap bathrooms, etc. to be "loop proof" Use Bobrick 813660 or equal.

Abuse Resistant Wallboard: Where required use ASTM C840, Type 'X', glass fiber reinforced core with heavy natural finish abrasion resistant bonded to back side, "Hi-Impact 3000 Wallboard" as manufactured by National Gypsum Co.

Water-Resistant Gypsum Backing Board:
At toilet/sink areas use two layers of ASTM C 630. Type 'X' where required for fire-resistive-rated assemblies, thickness as indicated. At all shower rooms use conc. backer board on walls and ceilings.